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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,319	05/25/2006	Cecile Joubert	0501-1159	5678

466 7590 11/24/2008  
YOUNG & THOMPSON  
209 Madison Street  
Suite 500  
ALEXANDRIA, VA 22314

EXAMINER
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PEACE, RHONDA S

ART UNIT	PAPER NUMBER
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2874

MAIL DATE	DELIVERY MODE
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11/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,319	<b>Applicant(s)</b> JOUBERT ET AL.	
	<b>Examiner</b> Rhonda S. Peace	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 18, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6-17, 19-22, and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/30/2006 and 10/30/2006</u>                                  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see pages 12-15, filed 9/12/2008, with respect to the restriction of claims 1-25 have been fully considered and are persuasive. The restriction of claims 1-25 has been withdrawn.

Applicant's arguments filed 9/12/2008, with respect to the objection to claim 8 have been fully considered but they are not persuasive, as the amended claim 8 still fails to further limit claim 6, as both claim 6 and claim 8 define the optical delay as being  $200 \pm 40$  nm.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

### ***Information Disclosure Statement***

The information disclosure statements (IDS) submitted on 8/30/2006 and 10/30/2006 were filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner. The Applicant failed to provide copies of several non-parent literature references cited on the IDS filed 8/30/2006, and therefore these references have not been considered. Zhuang et al, cited on the IDS filed 8/30/2006, has not been provided by the Applicant, and therefore the Examiner has attached a copy of the reference with this Office Action.

Qian et al, cited on the IDS filed 8/30/2006, contains illegible portions throughout the document, and therefore has not been considered by the Examiner.

### ***Drawings***

The drawings are objected to because Figures 2, 5, and 8-10 do not contain proper axes labels for both vertical and horizontal axes. Moreover, Figure 1 contains excessive shading making it unsuitable for publication. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

The amended abstract, filed 5/25/2006, is proper and has been entered into the record.

***Claim Objections***

The objection of claim 8 is maintained for the reasons cited above. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 5, 18, 23, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Barberi et al (US 6,327,017).**

Concerning claims 1, 5, 18, 23, and 24, Barberi et al discloses a nematic liquid crystal display presenting two stable states (see Figure 1), in the absence of an electric field, that are obtained via anchoring break, wherein the two stable states correspond to the two textures of liquid crystal molecules and exhibit a twisting that differs by 150 to 180 degrees in absolute values. See col. 4 lines 60-67 and col. 5 lines 1-5. Said display further comprises two polarizers, the first polarizer being placed on the observer-side and the other polarizer being placed on the opposite face of the liquid crystal cell, wherein the polarizers are placed such that their orientation is shifted by a

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value equal to the rotatory power of the cell  $\pm \pi/2$ , the rotatory power corresponding to the effect of the most twisted texture. See Figure 18, col. 8 lines 38-51, and col. 5 lines 6-9. As seen in Figure 1a, the twist angle of one of the two states is zero degrees. Moreover, Barberi et al further teaches the angles of the polarizers may be changed to vary the optical contrast between the two states. See col. 8 lines 64-67.

***Allowable Subject Matter***

**Claims 2-4, 6, 7, 9-17, 19-22, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The following is a statement of reasons for the indication of allowable subject matter: The applicable prior art cited in the case fails to disclose or reasonably suggest the limitations of claims 2-4, 6, 7, 9-17, 19-22, and 25, specifically limitations regarding particular values of optical delay, specific angular placements for polarizers both levo-rotatory and dextro-rotatory liquid crystal materials, particular values of the angle formed by the bushing directions, specific values for the ratio between the thickness of the cell and the spontaneous pitch, and particular claimed relationships for the rotatory power, transmission value, optimal twist value. The specific values claimed for the above variables are considered novel, and the current invention utilizes the specific relationships claimed to achieve an optimization of bistable nematic liquid crystals not previously described or suggested in the art.

### ***Conclusion***

The non-patent literature prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Bigelow et al ("Observations of a bistable twisted nematic liquid-crystal effect"), Yeung et al ("Truely bistable twisted nematic liquid crystal display"), Yamaguchi et al (" measurement of twist angle distribution and an azimuthal anchoring energy by Stokes Parameter Method(SPM)"), Zuang et al (Parameter optimization for a reflective bistable twisted nematic display by use of the Poincare sphere method"), and Zhuang et al "Optimized configuration for reflective bistable twisted nematic displays").

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571)272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on (571) 272- 2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rhonda S. Peace/  
Examiner, Art Unit 2874  
11/12/2008

/Michelle R. Connelly-Cushwa/  
Primary Examiner, Art Unit 287431